PRACTICE TEST #4 Worksheet: Everything!!!

Molecular mass, moles, molecular formula, empirical formula, percent composition

1. What is the molecular mass of glycerol, C3H5(OH)3?

2. What is the molecular mass of nickel(II) sulfate hexahydrate, NiSO4.6H2O?

3. How many moles are in 500 g of sucrose, C12H22O11?

4. How many grams are in 3.26 moles of magnesium hydroxide?

5. How many carbon atoms are in 8.78 moles of benzene, C6H6?

6. How many moles are in 3.26 x 1024 molecules of glucose, C6H12O6?

7. Calculate the molecular formula of a compound whose molecular mass is 128 g. Its percentage composition is 93.7% carbon and the rest is hydrogen.

8. Calculate the empirical formula of a compound that is 41.4% strontium, 13.24% nitrogen, and the rest is oxygen.

9. Calculate the percentage of water in the following hydrate: Na2CO3.10H2O

10. In a 10 gram sample of chloromycetin, 4.088 grams is carbon, 0.375 grams is hydrogen, 0.867 grams is nitrogen, 2.476 grams is oxygen, and 2.194 grams is chlorine. Calculate its empirical formula.